REMARKS

Applicants have cancelled claim 2 and amended claims 1, 3, 13, 15-22, 24, 26, 27, 32-34, 42-83, 88, and 92-101 as set forth above. No new matter has been added by way of these amendments. Applicants note with appreciation the suggestions provided by the Office. In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

The Office has rejected claims 1-101 under 35 U.S.C. 101, asserting the clams do not produce a tangible result. Accordingly, Applicants have amended claims 1 and 42 to recite, "outputting a model based on said combined set of partial differential equations for the two or more selected application modes for the said one of said plurality of systems," and have amended claims 82 and 92 to recite, "outputting a model based on a combination of the determined sets of partial differential equations for the two or more selected user-defined application modes for the associated model." Accordingly, as amended the claims now clearly recite a tangible result, i.e. the output of a model. The output of a generated model to solve a scientific and engineering problem or problems is clearly a beneficial result or effect. By way of example only, the generation of such a simple exemplary model for the addressing problems with the transmission of frequencies in the microwave range in a waveguide for the telecom industry is discussed on pages 67-73. Accordingly, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw this rejection.

The Office has rejected claims 1-101 under 35 U.S.C. 101 asserting the claims are directed to functional descriptive material according to p.50 of the Interim Guidelines. More specifically, the Office asserts claims 42-81 and 92-101 recite a "computer program product", but this term could also refer to, for example, a file downloaded from the internet, and therefore does not correspond to "computer readable medium." Additionally, the Office asserts claims 1-41 and 82-91 appear to be directed to computer programs per se, and therefore are non-statutory. More specifically, the Office asserts Claims 1, 3-41, and 82-91 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. The Office asserts dependent claim 2, which depends from independent claim 1, claims "[t]he method of claim 1, wherein forming said combined system is performed by machine executable code in said computer system." Assuming that claim 2 further limits

claim 1, then the Office asserts claim 1 and its dependent claims 3-41 do not necessarily form the combined system of differential equations by machine executable code in the computer system. The Office asserts that claims 1 and 3-41 are inoperable without this limitation. Examiner also finds that this rejection also applies to claims 82-91.

Accordingly, as set forth above Applicants have amended claims 42-81 and 92-101 to cancel the phrase, "computer program product" and to recite a computer readable medium in accordance with the Office's suggestion. Additionally, with respect to claim 1-41 and 82-91, Applicants have cancelled claim 2. Claims 1-41 and 82-91 were intended as process claims, not computer readable medium claims and as explained above the claims as amended above now clearly recite a process the provides a useful, concrete and tangible result to the scientific and engineering community. Accordingly, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw this rejection of claim 1-101.

The Office has rejected claims 1-101 under 35 U.S.C. 112, first paragraph, asserting that claims 1, 42, 82, and 92 have been amended to claim the "representation of a partial differential equation system" for "two or more selected application modes," but that the amendment did not provide support for this feature in the original specification, and the Examiner has not been able to locate such support in the specification. Applicants respectfully direct the Office's attention to pages 56-59 and FIGS. 22 and 23 in the above-identified patent application which described and illustrate embodiments selecting multiple application modes with the loop shown in FIG. 22 before combining the sets of partial differential equations for all application modes in Figure 23. Accordingly, in view of the foregoing remarks, the Office is respectfully requested to reconsider and withdraw this rejection of claim 1-101.

The Office has rejected claims 1-41 and 82-91 under 35 U.S.C. 112, second paragraph, asserting that claims 1 and 82 use the word "system" in the term "computer system" and "partial differential equation system". The Office asserts the term "system" is ambiguous, and suggests replacing the currently-used terms with terms such as "computer apparatus" and "set of partial differential equations. Accordingly, Applicants have amended independent claims 1 and 82 in accordance with the Office's suggestion as set forth above.

In view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw this rejection of claim 1-41 and 82-91.

The Office has rejected claims 1-33, 35-36, 39-73, and 75-101 under 35 U.S.C. 102(b) as being anticipated by FEMLAB 1.0 product documentation, claims 34 and 74 under 35 U.S.C. 103(a) as being unpatentable over FEMLAB 1.0 product documentation in view of PDE Toolbox, and claims 37-38 and 77-78 under 35 U.S.C. 103(a) as being unpatentable over FEMLAB 1.0 product documentation in view of "Object Oriented Programming."

FEMLAB 1.0 product documentation, PDE Toolbox, and "Object Oriented Programming," alone or in combination, do not disclose or suggest, "representing at least one of a plurality of systems as two or more selected application modes modeling physical quantities of said one of said plurality of systems . . . determining a set of partial differential equations for each of the two or more selected application modes corresponding to said one of said plurality of systems . . . outputting a model based on said combined set of partial differential equations for the two or more selected application modes for the said one of said plurality of systems" as recited in claims 1 and 42 or "selecting two or more of the user-defined application modes . . . determining sets of partial differential equations for said selected two or more user-defined application modes of said associated model . . . outputting a model based on a combination of the determined sets of partial differential equations for the two or more selected user-defined application modes for the associated model" as recited in claims 82 and 92.

With all due respect, the Office is mischaracterizing some introductory text on pages 1-6 and 1-8 to the FEMLAB User Guide which only discloses that multiple application modes are available to select from, not that two or more application modes could be selected. Applicants note there is no discussion in any of the detailed documentation in FEMLAB 1.0 Product Documentation which follows this introductory section discussing or illustrating the selection of more than one application mode or the implementation of such a system with more than one application mode. Instead, the detailed documentation in FEMLAB 1.0 Product Documentation only discloses the selection of a single application mode. By way of example, the Office's attention is respectfully directed to the more detailed description on

pages 4-73 to 4-101 in the FEMLAB Reference Manual which discuss in detail how a single application mode is selected along with specific examples of how to solve application specific problems with this selection of one of the application modes.

With the present invention, a user can select a combination of two or more application modes, combine these, and derive a corresponding combined set of partial differential equations. The combination of two or more application modes typically represent different physics phenomena, such as heat transfer, structural mechanics, or fluid dynamics. Additionally, the two or more application modes are not just independently added to the model. With the present invention, the dependent variables in one application mode may affect the dependent variables in the other application mode and vice versa and thus the present invention takes this into account when generating the model.

Accordingly, in view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw the rejection of claims 1, 42, 82, and 92. Since claims 2-41 depend from and contain the limitations of claim 1, claims 43-81 depend from and contain the limitations of claim 42, claims 83-91 depend from and contain the limitations of claim 82, and claims 93-101 depend from and contain the limitations of claim 92, they are distinguishable over the cited references and are patentable in the same manner as claims 1, 42, 82, and 92.

In view of all of the foregoing, applicant submits that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

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